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ABSTRACT

A Career Education Document Information System (CEDIS) Project was funded September 1, 1971, for the purpose of establishing more effective communication links between the occupational educators who need to obtain new knowledge and acquire improved skills. During the first year of operation, several major accomplishments were achieved, including: (1) project staffing, (2) activation of an advisory committee, (3) completion of preliminary design and planning, (4) arranging for sources of occupational education and ancillary information, (5) establishing an exploratory network with 12 schools, and (6) preparation of a preliminary plan for evaluation. Included in this document is a 5-year plan for Project CEDIS which identifies general time periods for accomplishing project activities relating to general management, system research and analysis, developmental systems operations, and annual evaluations. A more detailed plan of the research and analysis activities and systems operation for fiscal year 1973 is provided. (SB)

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A MODEL FOR A CAREER EDUCATION
DOCUMENT INFORMATION SYSTEM
IN MASSACHUSETTS

A Five Year Project Plan

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VT020360

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
1. BACKGROUND	3
1.1 General Need to be Met	3
1.2 Resources Already Available	3
2. PROJECT OBJECTIVES	6
2.1 Basic Objectives	6
2.2 Research and Development Objectives	6
2.3 Information System Objectives and Constraints	11
2.4 Objectives of the Project Plan	13
3. FIRST YEAR ACCOMPLISHMENTS	16
4. FIVE YEAR PROJECT PLANS AND SCHEDULES	19
4.1 Master Program Schedule	19
4.2 Narrative Description	27
5. DETAILED FY-73 PLAN AND SCHEDULE	32
5.1 FY-73 Schedule	32
5.2 Narrative Description	37

	<u>Page</u>
6. PROJECT ORGANIZATION AND MANAGEMENT	43
7. RELATIONS WITH OTHER ORGANIZATIONS	46
7.1 Agreements with Sponsors	46
7.2 Agreements with Information Sources	46
7.3 Agreements with Subscribers	47
7.4 Agreements for Support Services	48
8. FINANCIAL PLANS AND BUDGET	49

APPENDICES

- A. Advisory Committee
- B. Pilot Network Schools
- C. Record of Requests for Data from CEDIS
- D. Description of the Pilot Network Process

INTRODUCTION

This document sets forth a Five Year Project Plan for Project CEDIS.

Project CEDIS is sponsored by the Division of Occupational Education of the Massachusetts Department of Education. The Greater Lawrence Regional Vocational-Technical School serves as host institution for the Project and administrator of its funds.

The Project was initially specified to have a duration from September 1, 1971, through June 30, 1974. It actually started in November of 1971. This Project Plan sets forth a Project duration from July 1, 1972, through June 30, 1977, in accordance with Department of Education guidelines calling for a five-year plan.

This document has been prepared and submitted for the purpose of supporting the Project's budget request for FY-73. To this end, it states the Project objectives, past accomplishments, current status, a detailed plan for one year, and general plans for five years, starting July 1, 1972.

In addition to providing justification for the Project budget for FY-73, this document is expected to serve as the basic operating plan to guide Project personnel in the work to be done, and to inform persons external to the Project concerning its purposes and scope.

This plan is subject to change at the discretion of the Project Director, with the approval of the Associate Commissioner of the Division of Occupational Education.

1. BACKGROUND

1.1 General Need to be Met

Educational research and development is generating increasing quantities of valuable knowledge relative to occupational education with each passing year.

However, unless such new knowledge and the capabilities that go with it find their way into the hands of the practicing occupational educator, the new knowledge serves no useful purpose.

While there are some institutional mechanisms for the dissemination of educational research findings and conclusions, no one of them singly nor all of them collectively are meeting the needs of the practicing occupational educator in a practical and realistic way.

This Project is being undertaken to meet that need.

1.2 Resources Already Available

The following organizations have been identified as primary sources of educational research and development documents and related information of value to the occupational educator:

ERIC - Educational Resources Information Center

- ERIC is a comprehensive national system consisting of 19 clearinghouses, one of which is committed exclusively to Vocational-Technical education as a subject area.

- . It contains microfiche copies of over 100,000 documents with approximately 1,000 new documents added each month.
- . ERIC documents can be read and reproduced by any other organization which has the microfiche file and appropriate equipment.
- . The full ERIC files on all subjects are now maintained at CEDIS, which has microfiche reading and reproduction capability.
- . ERIC processes are compatible with computerized search and retrieval techniques.
- . ERIC also publishes six major indexes of materials relevant to occupational education:
 - (1) Research in Education (RIE)
 - (2) Current Index to Journals in Education (CIJE)
 - (3) Office of Education Research Reports (1956-65)
 - (4) Catalog of Selected Documents on the Disadvantaged
 - (5) Pacesetters in Innovation
 - (6) Manpower Research
- . The ERIC Vocational-Technical clearinghouse publishes the following indexes, which have particular relevance to the CEDIS operation:
 - (1) Abstracts of Instructional Material in Vocational Technical Education (AIM)
 - (2) Abstracts of Research and Related Materials in Vocational Technical Education (ARM)
- . CEDIS can make any and all ERIC documents available to educators in Massachusetts.

NERCOE - New England Resource Center for Occupational Education

- . NERCOE is a New England Regional organization which is in the process of starting to provide resources to administrators based on outside state computer searches needed for development.

- . It is the stated intention of NERCOE to encourage the development of state information services like CEDIS.
- . It is a separate, not-for-profit organization physically located in Newton, Massachusetts, with financial support from the New England Regional Commission.

NERAC - New England Research Application Center

- . NERAC is an information dissemination center which provides literature search service for a fee against ERIC or six other technical or scientific data bases.
- . It is not exclusively or primarily concerned with occupational education but does have access to data relevant to the subject.
- . It is operated by the University of Connecticut and located at Storrs, Connecticut.
- . CEDIS has experimented with use of this services and has determined it to be too expensive for practical purposes.

Project CEDIS' general mission is not to duplicate the capabilities already in existence but rather to marshal and make use of them in a way that is mutually reinforcing in providing services to the occupational educator. CEDIS' role is to establish more effective communication links between the practitioners who need to obtain the new knowledge and acquire improved skills and the sources of information and assistance in improving their skills.

2. PROJECT OBJECTIVES

2.1 Basic Objectives

The fundamental objective for this Project is to help young people in Massachusetts, while they are in the public school system, to become occupationally career minded, appropriately motivated, and educationally equipped with suitable knowledge and skills to be able, successfully, to enter and pursue the career of their choice.

The above, fundamental objective underlies the Project but is purposefully not addressed directly by it. Rather, the Project, at its most basic level, has the primary objective of providing relevant information and documents to the individuals in the school system who are most directly responsible for helping our young people in the manner described above, namely: teachers, curriculum developers, guidance counselors, and school administrators.

The constituency of persons to be served by this system; the geographical coverage; the school levels involved; the types of information and documents to be provided; mechanisms for information gathering, storage, indexing, retrieval, and dissemination: all are considered to be matters of system design and scope. They are treated in the following two sections.

2.2 Research and Development Objectives

The primary goal of the CEDIS Document Information System was originally stated as:

"To establish and maintain an information system designed to meet the specialized information needs of the occupational educator in Massachusetts such that the utilization of new knowledge by the practitioner is continuously on the rise."

The specific objective for CEDIS was originally stated as:

"To identify the information needs of the practitioner, to identify the existing information dissemination capability, both real and developing, within Massachusetts; and to develop, implement and maintain a plan [system] to provide for the unique information needs of occupational educators in Massachusetts in such a way that it maximizes existing and developing information dissemination efforts within Massachusetts."

Both of the above stated objectives, as well as the statements in 2.1 above, indicate the significant degree to which this Project is itself research and development oriented. This Project is not a straightforward implementation effort, where the system to be implemented is well defined and the environment in which it will operate is well understood. Rather, the Project is properly understood as an "exploratory development" project, i.e., one in which a prototype system is designed and made operational and experimented with. A major part of the value of the project relates to experimentation with features of the system which can be handled in various ways.

The following appear to be the system parameters which one can vary in the process of designing and experimenting with the evolving Career Education Document Information System:

- . Definition of what classes of persons are to be considered "subscribers" to the system, e.g.

Teachers,
Curriculum developers,
Guidance counselors,
Administrators,
Division of Occupational Education,
Other Division projects,
Massachusetts Advisory Council on
Education,
Massachusetts Advisory Council on
Occupational Education, and
Massachusetts Association of
Vocational Administrators.

- . Definition of what levels of school are to be included:

Present inclusion:
Secondary
Post-secondary (2 year)
Possible future inclusion:
Middle
Post-secondary (4 year)

- . Definition of what types of schools are to be included:

Public schools,
Private schools,
Special institutions.

- . Determination of what are the "information needs" of the practitioners, and experimentation with various ways of making needs assessments;
- . Establishing the categories of information relevant to assisting the practitioner to meet his needs, such as:

Occupation-oriented information,

Occupational education oriented
information,

Occupational education program
development oriented information,

Teacher training oriented information,

Teacher motivation and psychology oriented information,

Student motivation and psychology oriented information,

Guidance counselor training oriented information,

Guidance counselor motivation and psychology oriented information, and

Administrator oriented information.

- . Identification of sources of available information in each of the information categories of relevance, and sources of new research and development findings that are pertinent;
- . Evaluation of alternative techniques of obtaining and screening indexes, acquisition lists, and/or other lists of information available from each source of relevant information or documents;
- . Consideration of maintaining in-house resources in hard copy form . . . or on microfiche, computerized storage devices, or other film or electronic technique;
- . Consideration of alternate ways of indexing, cross referencing, storing, and retrieving categories of information and documents;
- . Determination of the preferred role (if any) of the central CEDIS staff with respect to evaluation of the validity of quality of documents it obtains, stores, and disseminates;
- . Determination of a preferred method to "synthesize" research of particular interest to occupational educators;
- . Determination of the most effective procedure or mechanism for assuring that "subscribers" are aware of the services CEDIS has to offer, know how to ask for help, and are motivated to take advantage of it, such as:

Written flyers
Special studies
Abstracts
Seminars
Face-to-face visits
Automatic distribution of
certain documents
Telephone calls

- . Determination of the most effective ways to provide in-service training to practitioners to supplement the knowledge provided by the documents;
- . Consideration whether it is feasible or desirable to attempt to obtain "feedback" from the system "subscribers" with respect to their evaluation of any document they receive, or the consequences of their attempting to apply the knowledge provided in the documents they receive; and
- . Determination of the most effective and efficient arrangements of hardware, software (if any), and data bases between the CEDIS central facility and "subscribers" facilities; modes of communication to be used between "subscribers" and CEDIS; and modes of communication between CEDIS and its sources of information and documents.

The above may be considered research and development objectives. They are analysis and design type problems that will have to be addressed on a systematic basis over time, as CEDIS moves from a general system concept to a fully developed and operating system.

Decisions on the above and related matters will be documented in informal Project CEDIS Working Papers.

2.3 Information System Objectives and Constraints

The following are the system objectives and constraints which have been established to date to guide and control the design of the Document Information System to be developed and evaluated by this Project:

Ultimate beneficiaries:

Young people in the Massachusetts
Public School System from K-14

Persons who must be served as "subscribers":

Public school occupational education
practitioners:

Teachers
Curriculum developers
Guidance counselors
Administrators
Division of Occupational Education
Other division projects
Other selected organizations and associations

Public schools whose "subscribers" must be served:*

All Massachusetts regional Vocational-
Technical high schools
All Massachusetts Vocational high schools
All Massachusetts comprehensive high
schools
All Massachusetts community colleges

Types of information to be disseminated by the system:

All ERIC documents plus materials in
one or more of the following cate-
gories:

CATEGORIES OF CEDIS MATERIALS

GVT	GENERAL VOC. TECH. EDUCATION
ACA	ACADEMIC
ADM	ADMINISTRATION
ADU	ADULT VOC. EDUCATION

* Approximately 20 during the 1972-73 school year. All schools with occupational education programs by June 30, 1974.

AGR	AGRICULTURAL EDUCATION
BUS	BUSINESS EDUCATION
CAR	CAREER EDUC., CAREER DEVELOPMENT, CAREERS
CON	CONSTRUCTION TRADES
COO	COOPERATIVE EDUCATION
CUL	CULINARY ARTS
CUR	CURRICULUM DEVELOPMENT
DIS	DISTRIBUTIVE EDUCATION
ETE	EDUCATIONAL TECHNOLOGY
FAC	FACILITIES
GUI	GUIDANCE
HEA	HEALTH OCCUPATIONS EDUCATION
HOM	HOME ECONOMICS EDUCATION
MAN	MANPOWER
SPE	SPECIAL NEEDS
TEA	TEACHER EDUCATION
TEC	TECHNICAL EDUCATION
T & I	TRADE AND INDUSTRIAL EDUCATION
TYC	TWO YEAR COLLEGES
URB	URBAN VOC. EDUCATION

Other services to be provided by the system:

CEDIS plans to provide the services of Educational Information Consultants (EIC's) who will be the most integral link in the system. These EIC's will be CEDIS personnel who have had extensive experience in various areas of occupational education and who will have undergone specialized training in information services. They will be assigned to specific schools and key individuals and will report to them on a regular and continuous basis.

In this way, they will be able to develop a clear understanding of the evolving information needs of their clientele and will be able to exercise a considerable amount of discretion in the selective presentation of information packages. At the same time, they will be building grass-roots relationships which will be mutually beneficial to the schools and CEDIS and will function as a pathway by which innovations and change are disseminated, adopted, and integrated into existing programs.

Relation with other existing and developing systems:

CEDIS is to complement the other systems (such as MEC, SEIC, NERCOE, and the MDE Library) rather than duplicate them.

CEDIS is to be developed in such a way that it maximizes use of the other system dissemination efforts.

Operating organizational features:

An Advisory Council including both teachers and administrators is required in order to assure practical realism in the evolving design of CEDIS.

The 12 schools initially participating with CEDIS will play an active part in expanding CEDIS to all occupational education practitioners in Massachusetts by providing feedback.

Equipment considerations:

Local educational agencies will participate to the maximum in providing the necessary equipment for utilization of information: portable microfiche readers, a microfiche reader-printer and necessary indexes to the ERIC system.

Sophisticated hardware, if required, will be maintained at the central CEDIS operations office: portable reader, a reader-printer, all available indexes to the ERIC system, a semi-automated document retrieval device, microfiche to microfiche reproducer, hard-copy to microfiche camera, and any other computer terminals or electronic retrieval hardware/software.

2.4 Objectives of the Project Plan

Project CEDIS has been planned to meet both research and development objectives and the information system design objectives, as stated above, and thereby accomplish the operational results specified above in Section 2.1.

The following are the initial objectives relating to the formulation of the plans (set forth in the following sections) which specify the activities to be carried out by CEDIS to accomplish the end-product objectives set forth in Sections 2.2 and 2.3:

- . The following operational capabilities will be provided as rapidly as possible:
 1. Capability to reproduce ERIC documents;
 2. Capability to perform manual searches of relevant indexes;
 3. Capability to provide computerized searches of any relevant indexes or data bases that are contemplated; and
 4. Documentation of usage to support needs analysis and evolving system development.
- . At the outset of the project, a study should be performed to describe existing and developing information dissemination facilities available to occupational education practitioners in Massachusetts and a plan [system concept] for CEDIS which interfaces with existing capabilities.
- . CEDIS has established a panel of practitioners, including both teachers and administrators, to serve as an Advisory Council to the staff of CEDIS.
- . The Tentative Operational Plan and subsequent revisions are to include identification of the information needs of the occupational education practitioner.
- . The plans will include development of an experimental network of approximately 12 schools during the 1972-73 school year and implement a dissemination system on a trial basis serving such schools.
- . The plans will include establishment of a facility to synthesize research of particular

interest to occupational educators in Massachusetts and disseminate such information on a monthly basis.

- . The plans will include provision for in-service training for occupational educators in the skills needed to use the new knowledge provided by CEDIS.
- . The plans will provide for CEDIS to be fully operational by June 30, 1974, gradually increasing its scope to include all cities and towns in Massachusetts in all environments offering occupational education.
- . The plans will include use of the 12 school experimental network to play an active role in expanding CEDIS to all occupational practitioners in the Commonwealth.

In addition to the above substantive goals for the CEDIS project plans, the following additional guidelines have been established in the process for generating these plans:

- . Each project year should include such efforts dedicated to the research and development objectives as are needed to evolve the overall CEDIS system design and operation in an orderly fashion.
- . Each project year should include expansion of CEDIS to additional schools at a rate that is as rapid as possible commensurate with available resources.
- . The project plans should include provisions for phase-over of CEDIS to continuing operational status and investigation of alternate means of financing its operation.

3. FIRST YEAR ACCOMPLISHMENTS

The first year of Project CEDIS came to a close as of June 30, 1972. During the period ending June 30, the following major accomplishments have been achieved:

1. Initial Project Staffing

Project CEDIS has been initially staffed by acquisition of the following full-time personnel:

Henry A. Haroian, Director
Norman Oppenheim, Assistant Director
Nancy St. James, Information Technician
Eleanor S. McEvoy, Secretary

2. Organizational Arrangements

An Advisory Committee has been activated. (See Appendix A)

3. Preliminary System Design and Planning

The preliminary study called for in Section 2.4 above was completed upon publication of the document entitled "Interfacing a Career Education Document Information System (CEDIS) With Existing and Developing Educational Information Structures in the Commonwealth of Massachusetts" by Gregory Benson, Jr., dated October, 1971.

Upon his appointment in November of 1971, the Project Director prepared and published a preliminary project plan entitled "A Tentative Operational Plan for Career Education Document Information System" dated January, 1972.

The present comprehensive plan for Project CEDIS represents an updating of that Tentative Plan dated January, 1972.

4. Arrangements with Sources of Occupational Education Information

CEDIS has identified and arrived at working arrangements with the following:

- ERIC - Educational Resources Information Center
- VT-ERIC Clearinghouse
- Bureau of Vocational Educational Services
- SEIC - State Education Information Center
- MEC - Merrimac Education Center
- NERCOE - New England Resource Center for Occupational Education
- MITRE - The MITRE Corporation
- NERAC - New England Research Application Center

5. Arrangement with Ancillary Source of Information

CEDIS has established an agreement with Project CAREER to microfiche and disseminate CAREER's output, as it becomes available.

6. Acquisition of Microfiche Equipment and ERIC Microfiche Collection

CEDIS has acquired the ERIC microfiche collection and equipment necessary to read microfiche files, reproduce documents from microfiche, and create microfilm records of existing documents.

7. Preliminary Investigation of Additional Storage and Retrieval Techniques

Contact has been made with organizations exploring computerized search and retrieval techniques applicable to the ERIC data bases, and a cursory survey made of its potential.

8. Identification of Occupational Education Information Needs

A Special Needs Committee was convened to explore the matter of identification of particular information problems.

9. Establishment of Experimental Network of Approximately 12 Schools

An experimental network of approximately 12 schools has been activated to work with CEDIS.*

10. Facility to Synthesize and Disseminate Research of Special Interest

How to accomplish this part of the entire plan is under investigation.

11. In-Service Training

How to accomplish this part of the entire plan is under investigation.

12. User Orientations

Meetings have been held with faculty, administrators, and guidance counselors to introduce them to CEDIS' role, plans, and capabilities. Folders of descriptive materials have been prepared and are being distributed at such meetings.

13. Operational Dissemination of Data

CEDIS has received and responded to approximately 130 requests for microfiche copies of documents, requests for computer searches, or other information packages (see Appendix C).

14. Plan for Evaluation

A preliminary plan for evaluation of project activities has been prepared.

15. Operational Statistics

CEDIS is maintaining records of each request it receives for statistical and needs analysis purposes. Appendix C provides such data through August 31, 1972. It also maintains records of visits by CEDIS personnel to the several schools.

* See Appendix B

4. FIVE YEAR PROJECT PLANS AND SCHEDULES

4.1 Master Program Schedule

On the following pages there are schedules which portray, graphically, the general time periods during which certain one-time tasks are to be performed, end-point milestones for certain key events, and start-up dates for commencement of certain system operational features which are expected to continue in operational status indefinitely thereafter.

A number of system features remain to be worked out. Accordingly, it is not possible to specify now exactly what they will be, or when they will become operational. Such matters will be determined in the course of the system research and analysis activities which are carried out to deal with such questions.

Furthermore, planning with respect to the ultimate disposition of the experimental CEDIS system remains to be accomplished. It is quite possible either to terminate the entire effort at the end of the three year experimental period as one would normally do with an ordinary pilot test experiment. It is equally possible to come to a conclusion that CEDIS as an experimental system is performing well and really should be converted into an operational system which will continue indefinitely into

the future (but not under R & D auspices or funds). The "pros" and "cons" of the action to be taken at the close of the experimental period have been treated as a separate major project matter, together with project evaluation, and scheduled so as to permit governmental review and decision on the matter long enough prior to the end of FY-74 to permit a smooth transition at the end of that fiscal year.

Following several pages of master project schedules, there is a general narrative description of the major activities and events included on the schedule.

It should be understood that the following schedules represent the Project Director's opinion of when the several activities should be accomplished to meet CEDIS objectives in a five-year frame of reference. It is not clear whether they are achievable within current project funding limitations. This aspect of the project is presently under review.

MASTER PROGRAM SCHEDULE

	FY-72	FY-73	FY-74	FY-75	FY-76	FY-77
<u>GENERAL MANAGEMENT</u>						
Project Director on Board	▲					
Initial Staffing	▲	▲				
General Design/Plan	▲	▲				
Tentative Project Plan	▲	▲				
Comprehensive Project Plan Preparation	▲	▲				
Review and Approval	▲	▲				
Budget Submissions	▲	▲	▲	▲	▲	▲
Quarterly Reports	▲	▲	▲	▲	▲	▲
<u>SYSTEM RESEARCH AND ANALYSIS</u>						
Definition of Classes of Users	▲	▲	▲	▲	▲	▲
Identification of Institutions to be Served	▲	▲	▲	▲	▲	▲
Analysis of Information Needs and Users	▲	▲	▲	▲	▲	▲
Specification of Information Categories	▲	▲	▲	▲	▲	▲

MASTER PROGRAM SCHEDULE (continued)

	FY-72	FY-73	FY-74	FY-75	FY-76	FY-77
Identification of Information Sources	▲		▲			
Evaluation of Indexing and Cross Referencing Techniques	▲	▲	▲			
Study of Document Storage and Retrieval Alternatives	▲	▲	▲			
Evaluation of Alternatives in Design of CEDIS/User System Relationships	▲	▲	▲			
Evaluation of Ways to Synthesize Research Results	▲	▲	▲	---		
Experimentation with Alternative Ways of Stimulating User Awareness of CEDIS	▲	▲	---	---		
Experimentation with Alternative Ways to Motivate Users to use CEDIS Services		▲	▲	---		
Study of How Best to Provide In-Service Training to Users		▲				

MASTER PROGRAM SCHEDULE (continued)

	FY-72	FY-73	FY-74	FY-75	FY-76	FY-77
Investigation of How to Obtain Feed-Back from Users on Quality of Services	▲	▲	▲			
Investigation of Uses of Automated Techniques		▲	▲			
<u>DEVELOPMENTAL SYSTEM OPERATIONS</u>						
Information Categories Handled by CEDIS						
Level 1	▲					▲
Level 2		▲				▲
Level 3			▲			▲
User Institutions to be Served by CEDIS						
Pilot Group	▲					▲
Increment #2		▲				▲
Increment #3			▲			▲
Increment #4				▲		▲

MASTER PROGRAM SCHEDULE (continued)

	FY-72	FY-73	FY-74	FY-75	FY-76	FY-77
Information Sources Accessible via CEDIS						
ERIC 19 Clearinghouses	▲					
ERIC - VT	▲					
MDE - Library	▲					
Others, if any, (to be specified)		---	▲			
Storage and Retrieval Capabilities						
Microfiche	▲					
Computerized Indexes	▲					
Semi-Automated		▲				
Remode Data Access (if selected)			▲			
Hard Copy Library (if selected)			▲			
Request and Dissemination Communication Procedures						
Verbal (Telephone)	▲					
Written Forms (Mail)	▲					
Telecopier (if used)		▲				

MASTER PROGRAM SCHEDULE (continued)

	FY-72	FY-73	FY-74	FY-75	FY-76	FY-77
Automated Message Handling (telecopier)		▲				
Other, if any, (to be specified)			▲			
System Utilization Assistance						
User Awareness Programs (flyers)	▲					
User Motivation Programs (EIC's)		▲				
User In-Service Training Programs		▲				
Other Field Support to Users		▲				
<u>PHASE-OVER TO CONTINUING OPERATIONS</u>						
Phase-Over Planning		▲				
Government Review and Approval		▲	▲			
Implementation			▲	▲		

FY-72	FY-73	FY-74	FY-75	FY-76	FY-77

FY-72
FY-73
FY-74
FY-75
FY-76
FY-77

4.2 Narrative Description

General Management. This set of activities refers to the administrative aspects of running a project. As of the June 30, 1972, date of this revision of project plans, most of the start-up administrative decisions and actions had already been taken. The most major matter still open relates to the completion of this comprehensive plan and its negotiation between the Project Director and the Division of Occupational Education as the authoritative statement of what this project is to achieve; and when; and how; and who is responsible for its various activities; what level of resources the Director can depend upon in the process; and what organizational and managerial arrangements are to be employed in the process.

Once there is full understanding on the scope and details of this project, the principal general management chores will be to direct project activities in accordance with the plan, revise the plan as appropriate from time to time, supervise all interagency operating agreements and interfaces, and submit the required quarterly progress reports and annual budget submission documentation. Evaluation and phase-over planning are legitimate general management matters, but are treated separately for reasons of convenience in this project plan. Added staffing may be required. If so, provisions for adding staff

will be incorporated in these plans when the Project Director has approval and funds for such purpose.

System Research and Analysis. On the schedule, some fourteen matters have been identified as deserving of analysis, study, design, evaluation, or planning consideration on this project. A time period prior to June 30, 1974, has been set for each such matter to be examined and decisions made with respect to it for purposes of CEDIS. Some of these matters may not require significant expenditure of time and effort. Others will require significant time and attention from project professionals. In addition, there will probably arise other matters which have not been foreseen at all which must be similarly treated.

The Project Director is expected to modify this list of research and analysis matters from time to time as he deems appropriate in the course of the project. Design choices, project decisions, or other such determinations which the Project Director believes to be of some general interest or applicability may be made the subject of a technical paper generated by CEDIS and released to appropriate sources upon approval of the Division of Occupational Education.

Developmental System Operations, This part of the schedule and plans relates to the CEDIS system features

which will become available incrementally throughout the three years FY-72 through FY-74.

Information Categories

The initial information categories stressed by CEDIS have been those most directly of use to teachers and guidance counselors. It is anticipated that research and analysis into the subject of appropriate information categories will broaden the scope of information handled by CEDIS. Levels 2 and 3 on the schedule refer to yet-to-be-determined sets of categories of information established as being appropriately in CEDIS' purview.

User Institutions to be Served by CEDIS

The FY-72 Pilot Network consists of five Regional Vocational Technical High Schools, two Vocational High Schools, one Comprehensive High School, and one Post-Secondard School. The next increment will be to add all Regional Vocational Technical High Schools in Massachusetts to the network by the end of December, 1972. The third increment will be a substantially expanded number of Vocational High Schools and High Schools with Vocational Programs . . . perhaps (but not necessarily) all of them in Massachusetts, to be added by September, 1973. The fourth and final increment to be in the network by March 30, 1974, will consist of all other schools and levels in Massachusetts which are determined to be appropriate subscribers to the CEDIS system for purposes of the present experiment. Other schools may be added after June 30, 1974, assuming the project is phased-over into an on-going status or is extended further as an experiment.

Information Sources Accessible via CEDIS

As the users, schools, and categories of information are identified, it is increasingly feasible to find the sources of information which will most readily serve the best interests of the users. During the first year, CEDIS established contractual relations with ERIC, the Superintendent of Documents, and the other nearest and most

clearly relevant sources of information and documentation. Nevertheless, CEDIS is not constrained to use only those sources. CEDIS expects to have an iterative process of identifying special information needs, searching for the best sources of relevant information, disseminating it, obtaining user feedback, and refining its needs analysis. Accordingly, the search for new and better sources of information, at least in some categories, is expected to go on more or less indefinitely, or at least until the mid point of FY-74.

Storage and Retrieval Capabilities

CEDIS has initially installed microfiche equipment enabling one to read, print or duplicate microfilm data and camera capabilities to create microfilms of documents. With such equipment it can and does maintain a set of the ERIC Microfiche Files. Computer capability for searching ERIC and other indexes is provided by others. CEDIS plans to rely on external resources for computer services rather than build an in-house capability. Other capabilities, such as a local hard copy library, computer-stored data or indexes only (more likely), remote terminal access to search indexes, and other high technology approaches to storing and retrieving essential information and documents will be researched and analyzed in the course of the project. Provision of capabilities other than microfiche is not expected to occur prior to FY-74.

Request and Dissemination Communication Procedures

CEDIS presently uses written forms upon which a user makes known his request for a document or a search. Verbal requests over the telephone are also honored. These techniques will continue indefinitely. In addition, CEDIS may experiment with use of teletype or computer teleprocessing message handling, provided that such facilities are made available to the project essentially without charge. Use of such capabilities may be introduced if research and analysis of the communications part of the system so indicates.

System Utilization Assistance

CEDIS has already taken initial steps to generate a program by which it can make potential subscribers aware of CEDIS' existence and potential to be of service. These will be expanded and refined over FY-73 and FY-74. In addition, CEDIS will experiment with and hopefully sponsor one or more programs aimed at motivating the subscriber to want to use CEDIS and training him in ways to utilize the new knowledge and skills coming available to him. CEDIS will also investigate the feasibility of other field support to users, such as periodic visits, seminars, working with users on special problems, and the like.

Phase-Over to Continuing Operations. CEDIS will consider the matter of what should become of the CEDIS staff, resources, and experimental system as of the end of FY-74. If it recommends its phase-over into continuing routine (non R & D) operations, a phase-over plan will be prepared as of the end of FY-73 to give local and state (and perhaps federal) authorities one full year to make a decision on the phase-over recommendation.

Annual Evaluations. In FY-72, CEDIS established the practice of using a Third Party Evaluator to prepare an evaluation plan and later to perform the evaluation called for by the plan. Similar procedures are planned for every fiscal year's operations in FY-73 and thereafter.

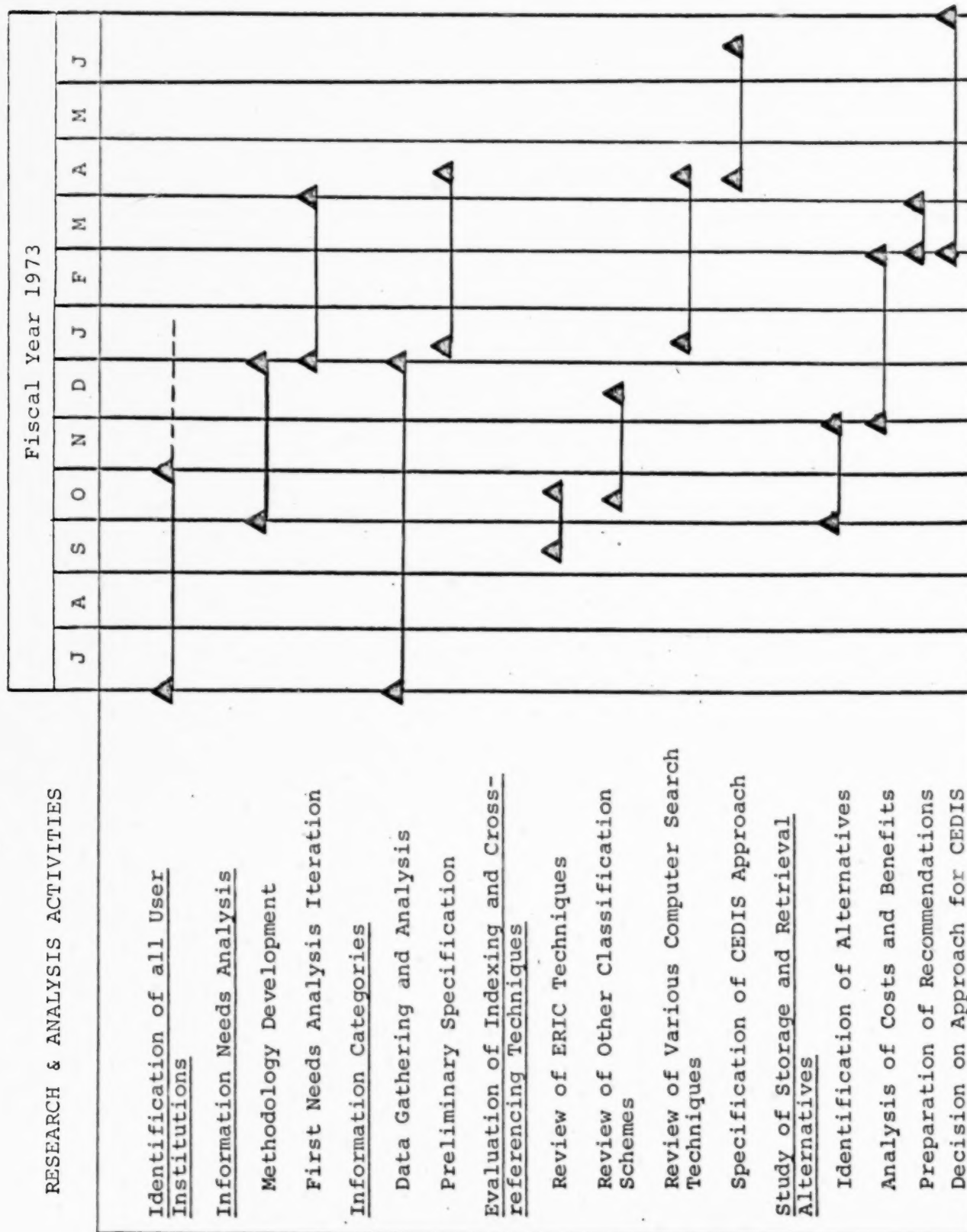
5. DETAILED FY-73 PLAN AND SCHEDULE

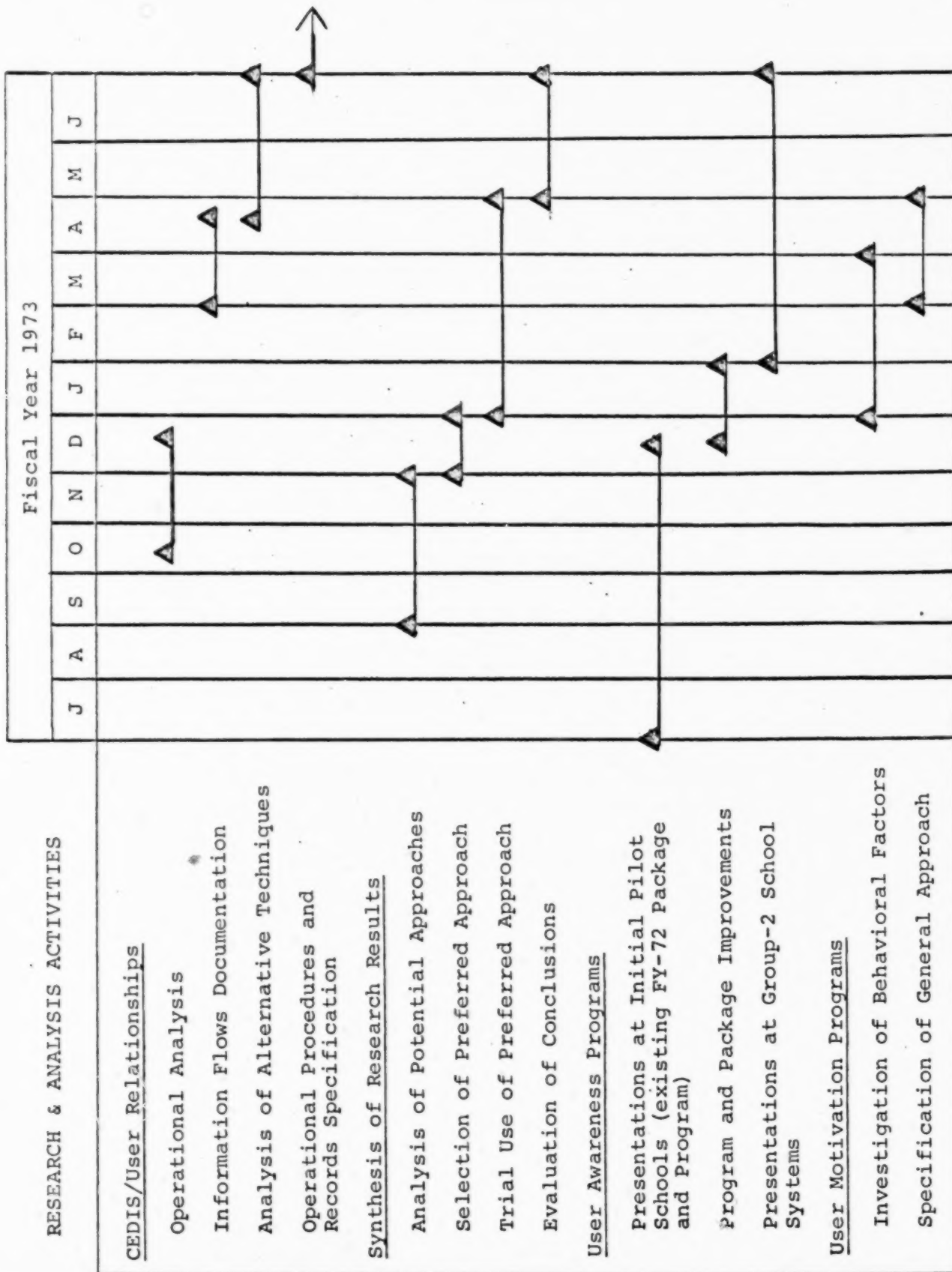
5.1 FY-73 Schedule

On the following pages there are schedules which portray the research and analysis activities to be performed on Project CEDIS during FY-73, the expansion of the DIS capabilities, and the services to be provided.

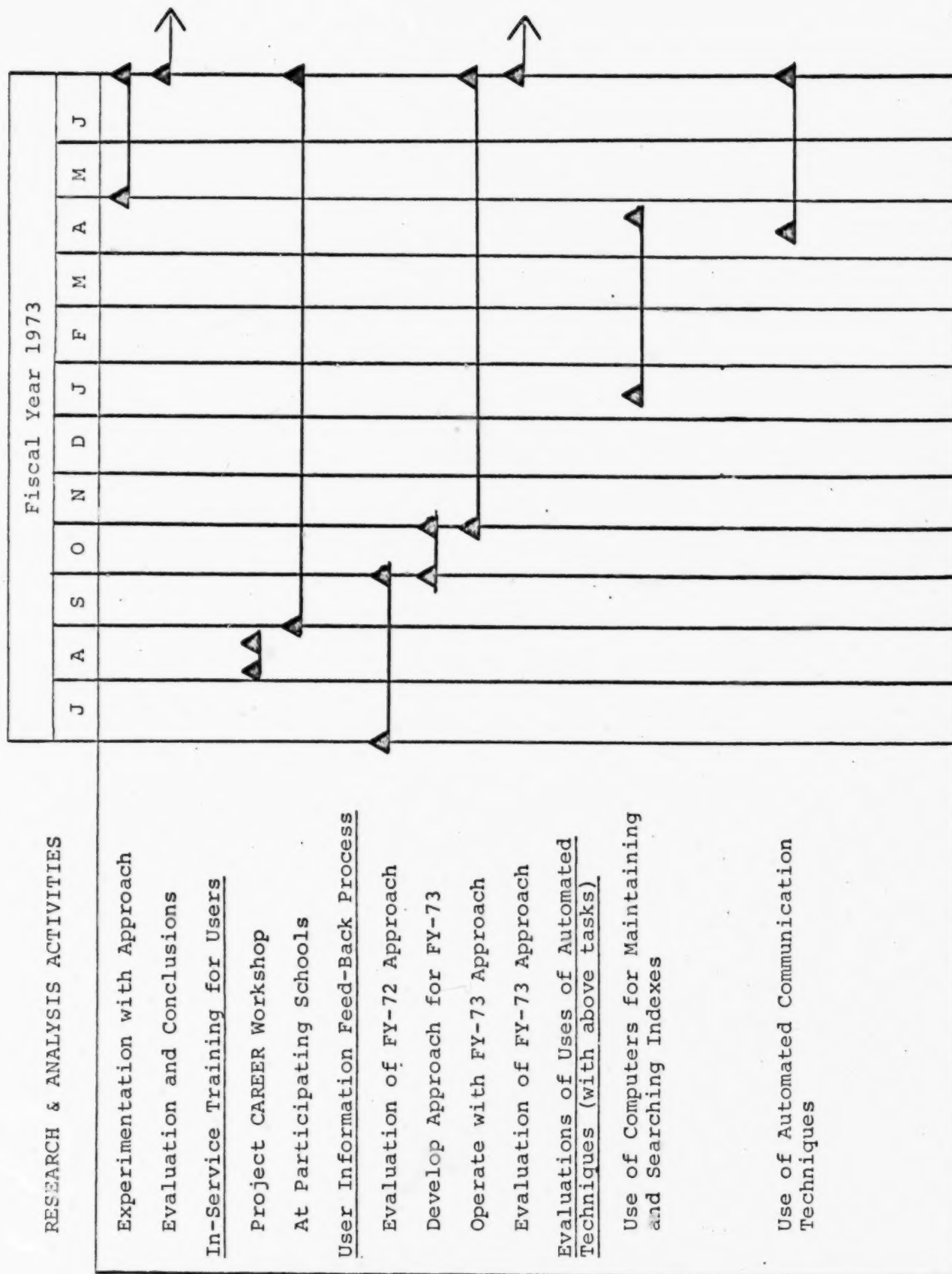
Following the schedules in Section 5.2 is a narrative description of the all important decisions and actions scheduled to be accomplished during this fiscal year.

RESEARCH & ANALYSIS ACTIVITIES





RESEARCH & ANALYSIS ACTIVITIES



Fiscal Year 1973											
J	A	S	O	N	D	J	F	M	A	M	J
<u>SYSTEM OPERATION</u>											
<u>Personnel</u>											
Information Technician (Half Time)											
Recruit											
On Board											
Library Science Specialist (Not Funded)											
Recruit											
On Board											
<u>Facilities</u>											
Arrange Inside Space at Lawrence											
Move											
<u>Equipment</u>											
Added Microfiche											
Added Office Equipment											
Library and/or Data Base											
Continuous Addition											
<u>Services</u>											
Computer Searches											
Xerox Journal Articles											

5.2 Narrative Description

RESEARCH AND ANALYSIS ACTIVITIES

Identification of all User Institutions. This activity encompasses the identification of all public institutions which CEDIS will provide services to. It is expected that some private institutions (such as the Opportunities Industrialization Center) will become "subscribers" to CEDIS services as well as the primary public school institutions.

Information Needs Analysis. This aspect of this project is most important and most difficult. Once "subscriber" needs are known, it is a relatively straightforward job to meet them to the best of one's abilities within available resources. How to determine what they really do need, as a practical matter, is not so easy to accomplish. Three months in FY-73 have been earmarked to ascertain how best to determine real needs, and an additional three months to attempt to employ the technique.

Information Categories. Parallel with the needs analysis is the matter of determining categories of information which will fulfill those needs and sources from which each category of information and documents can be obtained. Primary reliance to date has been placed upon ERIC; other sources need to be investigated and a specification of information categories and sources formally established for CEDIS. Six months have been scheduled in FY-73 for data gathering and analysis; and three additional months allowed for preparing the formal specification.

Evaluation of Indexing and Cross-Referencing Techniques.

With a limited set of information categories to be dealt with and a variety of sources of information, it appears desirable to create a CEDIS indexing and cross-referencing system which will take advantage of all such systems provided by each source of information and capping all of them so as to provide users with a single, hopefully simple, way to identify their needs which can then be used for search of all source indexes and identification of all relevant documents. The end product of this activity will be a written specification of the approach established for CEDIS, after careful review of ERIC and other approaches.

Study of Storage and Retrieval Alternatives. During FY-73 the CEDIS staff will explore various technical options available for the storage and retrieval of CEDIS documents. Primary reliance is presently upon microfiche techniques and is expected to remain so for some time. Nevertheless, there are other physical documents/microfilm/electronic storage possibilities which deserve consideration. June 30, 1973 is the target date for a decision for CEDIS' long range needs in this regard. Documentation will follow in FY-74.

CEDIS/User Relationships. It is possible to structure the relationship between the central CEDIS service operation and the users of CEDIS services in a variety of ways, with certain functions assigned either to the central staff or

the users. During FY-73, these alternatives will be explored, based on an analysis of all operations to identify key functions, documentation of information flows and decision/action points, and considering various ways of getting the total job done. By June of 1973 it should be possible to start writing the formal specification of how these relationships are to be structured for CEDIS.

Synthesis of Research Results. How to synthesize results of research of special interest to Massachusetts occupational education practitioners is a matter of potentially wide scope which must be approached cautiously. Initially this activity will concentrate on obtaining and disseminating the results of relevant research performed in Massachusetts or otherwise identified as particularly applicable to this state. CEDIS will consider various options through the fall, select the best apparent approach in December 1972, experiment with it for four months, and use the balance of the year for self-evaluation of the technique. Whether the trial approach will continue to be used the next year will depend on the evaluation of it during May and June of 1973.

User Awareness Programs. This activity relates to the techniques by which the CEDIS central staff brings its services to the attention of schools not previously aware of CEDIS. A procedure has already been established in FY-72, which will be used in the Fall Term of the 1972-73 school year. See Appendix D. Over the Christmas holidays, this

procedure will be re-examined and perhaps modified for use with the Group-2 (those to be added in FY-73) school systems during the Spring Term.

User Motivation Programs. Programs for the transfer of knowledge or competence from an originator of the knowledge to a user in a different environment have failed to meet expectations in a variety of governmental/industrial settings. Inadequate user knowledge and motivation seem to be the causes of such failure to meet expectations. Documents and knowledge cannot be forced upon unwilling recipients with any hope of success. Rather, the potential beneficiaries must recognize their own need for knowledge and documents and recognize CEDIS as the nearest, cheapest, and/or most reliable source from which to obtain them. Initiative must ultimately come from the user, not the supplier, of information. This activity will address the problem of how to develop a total approach in which such user initiative does in fact emerge and drive the entire process.

In-Service Training for Users. This task relates to the workshops and in-school orientation and training programs CEDIS provides for its subscribing Network Schools. See Appendix D for a description of the present process in this regard. CEDIS also participated in the Project CAREER Summer Workshop at Westfield in 1972 and provided instruction as a part of that program.

User Information Feed-Back Process. A part of the entire CEDIS project is that of getting feed-back from users on the utility of the documents they obtain from CEDIS and/or any part of the CEDIS operation. CEDIS established a user feed-back report form during FY-72, which it will continue to use and evaluate through September 1972. During October, CEDIS expects to modify and improve this feed-back process and utilize the new, revised process for the balance of FY-73. During the summer of 1973, the revised process is expected to be reviewed and evaluated again.

Evaluation of Uses of Automated Techniques (with above tasks). Computers represent an advanced technique which is technologically feasible, though perhaps economically impractical, for maintaining and searching indexes, maintaining data bases, and supporting digital communications. No funds are presently available for computerization of anything. Nevertheless, given CEDIS' general mission, investigation of these techniques for possible subsequent use is appropriate in FY-73, so that long term plans will not be concluded in ignorance of such possibilities.

SYSTEM ACQUISITION ACTIVITIES

Personnel. In addition to its present staff, CEDIS will employ a second Information Technician on a half-time basis starting in October 1972 to process the increasing

number of requests for searches and for documents which the Network subscribers are now beginning to generate. CEDIS also needs, but is not funded for, a person trained in library science. If additional funds can be secured, such a person should be on-board in May 1973. A starting date of March 1 would be preferable.

Facilities. CEDIS' temporary facility, a trailer, is inadequate. Arrangements are in process to have the Greater Lawrence Regional Vocational-Technical School provide permanent indoor space for CEDIS, with a move in December likely.

Equipment. CEDIS has budgeted funds for added office equipment in FY-73. Subscribing schools will pay for their own microfiche handling equipment. If further technical equipment is needed centrally by CEDIS, it will be requested and these plans changed accordingly.

Library and/or Data Base. Throughout FY-73, CEDIS will continue to update its microfiche files of documents, other source lists, and indexes, conduct searches, and reproduce and disseminate search results and documents as requested.

Services. CEDIS will continue throughout FY-73 to procure computerized searches of indexes and xerox copies of journal articles.

6. PROJECT ORGANIZATION AND MANAGEMENT

CEDIS is organized as an ad hoc experimental project to provide document identification and reproduction services in the field of occupational education. It is established under the auspices of the Division of Occupational Education of the Massachusetts Department of Education. The Associate Commissioner of Occupational Education is officially the Project Officer.

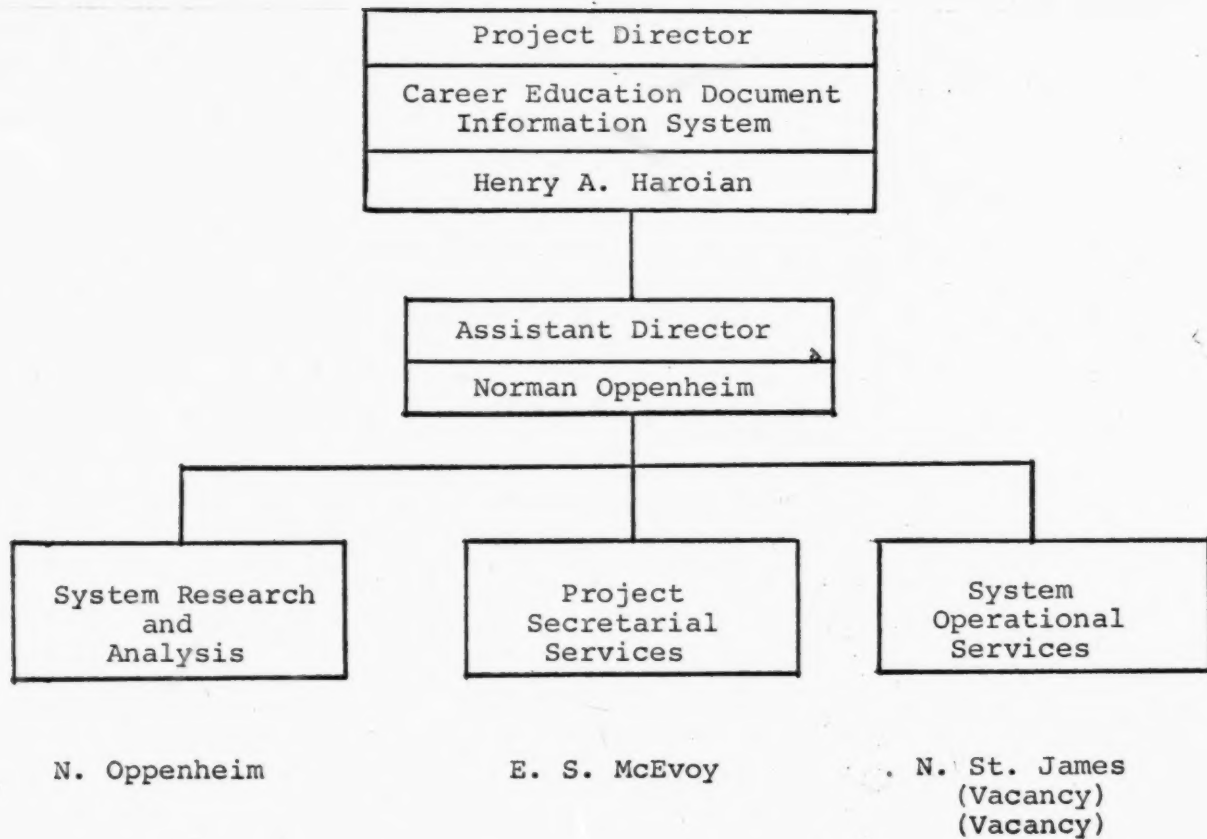
The Greater Lawrence Regional Vocational-Technical School provides a legally recognized entity as the organizational "home" for the Project. The school provides the Project with necessary administrative, financial, and "housekeeping" services.

Full-time planning and control of project and system activities is under the direction of the CEDIS Project Director, Henry A. Haroian.

The Project Director has a small, full-time professional and administrative staff to assist him. The central staff provides a service to school systems. Appendix D summarizes the process by which schools become a part of the Network. Procedures for on-going operations are presently being evolved. Significant portions of the work will be done by the schools in the Network and by services obtained from various other state agencies and private organizations.

A table of organization for the project is shown on the following page.

CEDIS STAFF



The Project Director has full control over the activities of the central staff. Relations with the participating school systems are a different matter. They are autonomous. Whether and how much they avail themselves of the CEDIS services turns on their perceptions of their own needs, the value of CEDIS services, and possible availability of comparable services from organizations other than CEDIS. The Project Director, in effect, must "sell" the participating schools on the value of CEDIS; he cannot direct them to use it.

Operating procedures call for prior approval of the Associate Commissioner of Occupational Education to any Project staff appointments and his annual review of the Project's budget. The Project Director is required to furnish reports quarterly on Project progress. Evaluations by an external third party evaluator are to be conducted as of the end of each fiscal year.

7. RELATIONS WITH OTHER ORGANIZATIONS

To be successful, Project CEDIS requires smooth working relations with a number of organizations and agencies external to itself. Existing and proposed interorganizational agreements for such purpose are as follows:

7.1 Agreements with Sponsors

Relations between Project CEDIS and the Division of Occupational Education and the Greater Lawrence Regional Vocational-Technical School are defined in the following documents:

- . The Proposal "Document Information System for Occupational Education" dated September, 1971, and signed by J. A. Booth and C. H. Buzzell.
- . The Document "Tentative Operational Plan for Career Education Document Information System" dated January, 1972, submitted by Henry A. Haroian.
- . This plan (when approved by all parties), which supersedes the Proposal for the Project of September 1, 1971.

7.2 Agreements with Information Sources

Project CEDIS has access to the following sources of information pursuant to the agreements and understandings indicated:

- . U. S. Office of Education, Educational Research Information Center (ERIC):

Purchase of ERIC Microfiche File and subscription to new acquisitions update tapes, by means of a standard form contract.

- . Massachusetts Department of Education Library:

Informal understanding that this library will provide bibliographic and other services upon request by CEDIS.

- . New England Research Center for Occupational Education (NERCOE):

Contracts for computer searches and services of a part-time "Educational Information Consultant" (EIC).

- . Massachusetts State Educational Information Center/Merrimack Educational Center/MITRE Corporation (SEIC-MEC-MITRE):

Informal understanding that the results of research into computerized data storage and retrieval and other techniques relevant to CEDIS' mission will be made available to CEDIS without cost. It is possible that CEDIS may utilize SEIC/MITRE on a routine basis for computer searches, if such service becomes available.

- . Project CAREER (CAREER):

Informal agreement that CAREER will make its data base available to CEDIS as it develops; and that CEDIS in return will microfiche CAREER documents and disseminate them as appropriate or pursuant to special agreement in each case.

7.3 Agreements with Subscribers

Project CEDIS does not contemplate any formal agreements with the schools or user personnel at the schools. Rather, CEDIS provides a written package of descriptive material and

instructions how one can use the CEDIS services. See Appendix D. In this manner, CEDIS can change the scope of services, procedures, forms, and instructions at will. CEDIS presently maintains an active file of all individuals using CEDIS services, so that advisories can be mailed to all users whenever an important change in procedures is to take place.

7.4 Agreements for Support Services

Project CEDIS is considering the possibility of engaging external agencies or private organizations to assist it with the following:

- . Possible consultant services to develop and present a workshop-type training program in Educational Information Consulting (EIC).
- . Third party evaluation services.
- . Possible management systems services.
- . Possible data processing/information systems technical services in evaluating the relative merits of various data handling tools, techniques and systems (a government agency or private firm with appropriate technical expertise).

CEDIS expects to use formal contracts, some brief, and others not so brief, to procure such of the above services as the Director ultimately decides upon.

8. FINANCIAL PLANS AND BUDGET

The financial data appearing on the attached page is the budgetary data previously furnished to the Division of Occupational Education for FY-1973 and the four following fiscal years.

Form VEA 11
 Project No. _____
 School System No. 823

Summary of Program Costs (Explain in detail on Page 12-18) (ONLY ONE YEAR WILL BE APPROVED AT A TIME)

	FY 1973		FY 1974	FY 1975	FY 1976	FY 1977
	Local	Federal				
Administration Consultants		43,620.00 4,000.00	48,860.00 5,000.00	53,746.00 5,000.00	59,120.00 5,000.00	65,032.00 6,000.00
Salary						
Teacher						
Other						
Travel						
Administrators						
XXXXXXXX		3,500.00	4,500.00	4,500.00	4,500.00	4,500.00
Instructional Equipment			5,000.00	3,000.00	3,300.00	3,600.00
Equipment Rental						
Supplies		2,880.00	8,000.00	9,500.00	11,000.00	12,500.00
Other Costs						
Rent		2,500.00	2,500.00	3,000.00	3,000.00	3,000.00
ensions & Benefits		660.00	700.00	700.00	750.00	750.00
XXXXXXXX						
IC Program			5,000.00	7,500.00	7,500.00	7,500.00
Total Expenditures	\$	\$60,000.00	\$79,560.00	\$86,946.00	\$94,170.00	\$102,882.00
tion of Expendi- es Anticipated P.L. 90-575			\$	\$	\$	\$

struction - fill in if the project is for construction only and complete form VEA 11-7 proposed expenditures for construction

Appendix A

1972-73 ADVISORY COMMITTEE

The Advisory Committee consists of the following:

Mr. Edward Burke
Teacher
Milford High School
66 School Street
Milford, Massachusetts 01757
Telephone: 473-0505

Dr. Eugene C. DuBois
Member, Massachusetts Advisory Council on
Vocational Technical Education
Boston University
Graduate School of Education
704 Commonwealth Avenue
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Telephone: 353-3306

Dr. William G. Dwyer
President, Board of Regional Community Colleges
177 Milk Street
Boston, Massachusetts 02109
Telephone: 727-2876

Mr. Herbert C. Gynan
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Greater Lawrence Regional Vocational Technical High School
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Fitchburg, Massachusetts 01420
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Mr. John P. Harrington
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Mr. Daniel H. Malia
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Mr. John P. Manning
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Dr. Paul J. Royte
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Dr. Ronald J. Saris
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Appendix B

PILOT NETWORK SCHOOLS

Mr. Paul J. Sullivan
Superintendent - Director
Blackstone Valley Regional Vocational
Technical High School
Pleasant Street
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Telephone: 529-7758

Mr. William A. Dwyer
Superintendent - Director
Blue Hills Regional Vocational
Technical School
100 Randolph Street
Canton, Massachusetts 02021
Telephone: 828-5800

Mr. Stanley Ziemba
Principal
Chicopee Comprehensive High School
Windsor Street
Chicopee Falls, Massachusetts 01020
Telephone: (413)592-6111

Ms. Julia A. Salmon
Director
David Hale Fanning Trade High School
24 Chatham Street
Worcester, Massachusetts 01608
Telephone: 755-4301

Mr. James A. Booth
Superintendent - Director
Greater Lawrence Regional
Vocational Technical School
Telephone: 686-0194

Dr. James J. Buckley
Superintendent of Schools
Re: Milford High School
66 School Street
Milford, Massachusetts
Telephone: 473-0505

Mr. George L. Ross
Superintendent - Director
Montachusett Regional Vocational
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Mr. Thomas Lafionatis
Superintendent - Director
Nashoba Valley Regional Vocational
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Chelmsford Road, Route 110
Westford, Massachusetts 01886
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Mr. Richard Mechem
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Dr. Gilbert Rosenbrier
Special Assistant to the President
Springfield Technical Community College
1 Armory Square
Springfield, Massachusetts 01105
Telephone: (413)781-6470

Dr. John E. Deady
Superintendent
Re: Springfield Technical High School
Springfield Public Schools
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Springfield, Massachusetts 01103
Telephone: (413)737-1193

Mr. Ernest Viscarello
Director
Waltham Vocational High School
100 Summer Street
Waltham, Massachusetts 02154
Telephone: 893-8050

Appendix C

RECORD OF REQUESTS FOR DATA FROM CEDIS

The table on the following pages sets forth the cumulative number of various types of disseminated by CEDIS from the inception of the project through August of 1972.

MONTHLY SUMMARY OF DISSEMINATED MATERIALS
CAREER EDUCATION DOCUMENT INFORMATION SYSTEM
 Cumulative from 12/13/71 to Period Ending 8/31/72

CLIENTS	Number of Requests	Number of Microfiche	Number of Searches	Number of Info. Pkgs.	Other
Previous Request Totals	---	---	---	---	---
Pilot Schools					
1. Blackstone Valley Regional	2	8	1	1	
2. Blue Hills Regional	13	136			
3. Chicopee Vocational	2	31			
4. Fanning Trade	3	92			
5. Gr. Lawrence Reg.	21	444	21		2
6. Milford Comprehensive	4	26			1
7. Montachusett Regional	14	140	1		1
8. Nashoba Valley Regional	2		2		
9. Newton Technical	5	310	1	1	
10. Springfield Technical College	3	6	1		1
11. Springfield Technical High	3	19			

MONTHLY SUMMARY OF DISSEMINATED MATERIALS
CAREER EDUCATION DOCUMENT INFORMATION SYSTEM
 Cumulative from 12/13/71 to Period Ending 8/31/72

CLIENTS	Number of Requests	Number of Microfiche	Number of Searches	Number of Info. Pkgs.	Other
12. Waltham Vocational	9	112	1		
Division of Occupational Education	5		4		1
Projects (other than CEDIS)	4	47	1		
Other Schools					
1. West Elementary	1	1			
2. Milton Public	2	74			
3. Belmont	1				1
4. Shawsheen Valley	3	30	2		
5. Pittsfield	4	5	3		
6. Malden	1		1		
7. Dartmouth	1	2			
8. Concord-Carlisle	2	4			1
9. Stoneham	1		1		

MONTHLY SUMMARY OF DISSEMINATED MATERIALS
CAREER EDUCATION DOCUMENT INFORMATION SYSTEM
 Cumulative from 12/13/71 to Period Ending 8/31/72

CLIENTS	Number of Requests	Number of Microfiche	Number of Searches	Number of Info. Pkgs.	Other
10. Bristol Community College	1		1		
11. Whittier Regional	1				1
12. Essex County Training	1		1		
13. Marshfield	1		1		
14. Essex Agricultural & Technical Institute	3		2		1
15. Melrose Junior	1		1		
16. Upper Cape Cod Regional	1		1		
OTHER	16	73	11		2
TOTALS	131	1,560	58	2	12

Appendix D

DESCRIPTION OF THE PILOT NETWORK PROCESS

Any public school in Massachusetts offering an occupational education program is eligible to become part of the CEDIS Pilot Network and will be incorporated into it in due course. Today, in fact, requests for information are being honored regardless of any formal association between the school of the requestor and CEDIS. However, for purposes of the CEDIS Project, an initial Pilot Network of approximately twelve schools has been established to enable CEDIS to clearly identify its clientele and concentrate its efforts accordingly.

Because they are the cornerstones of occupational education in the state, the Regional Vocational-Technical Schools were obvious first choices for inclusion in the Network. Additionally, Vocational High Schools within Local Educational Agencies dispersed across the state, a comprehensive high school, and a post-secondary school were considered likely candidates. The major thrust of the first fiscal year of Project CEDIS has been directed toward the formation of the Network. It includes five Regional Vocational-Technical Schools, five Vocational High Schools, one Comprehensive High School, and one Post-Secondary institution.

The process by which a school becomes part of the Network has evolved into a five-step pattern:

Step 1: Initial Contact. This occurs through active recruiting by CEDIS. The top administrator of the school is contacted, the objectives of Project CEDIS are outlined briefly, and an appointment is made for further discussion. Occasionally, an individual in a school who has particular interest in information services is brought to CEDIS' attention, and it is through that individual that contact is made with the top administrator.

Step 2: First Meeting. A CEDIS representative visits with the administrator and other staff at the school and discusses in detail the specifics of the operation and the potential relationship between CEDIS and the school. The CEDIS representative brings with him microfiche, a portable microfiche reader, sample indexes to the ERIC System, and sample information packages designed to instruct in use of the system. He explains that there is no charge for the school to become a member of the CEDIS Network and that training in the use of the system will be provided at the school by CEDIS. Each school system joining the CEDIS Network is furnished a CEDIS "package," consisting of the following:

- . A prepaid subscription to Abstracts of Research and Related Materials in Vocational Technical Education (ARM) and Abstracts of Instructional Materials in Vocational Technical Education (AIM) for the current year.

- . A free loan of a portable microfiche reader to be kept on school premises.
- . Two hundred (200) prepaid orders of microfiche per school.
- . Ten (10) prepaid computer and/or manual searches.
- . In-service training of school staff, on a voluntary basis, on how to utilize a document information system.

At this time it is agreed that the school will become a part of the CEDIS Network and the agreement is confirmed by a letter from the Superintendent of the school or school system to the CEDIS Project Director. In the letter, the Administrator identifies an individual on his staff who will serve as a point of working contact between the school and CEDIS. Following receipt of such letter, CEDIS immediately sends a letter to the individual so designated, giving full information and forms for purchase of indexes and readers.

Step 3: Introductory Session. This usually takes place sometime during a regularly scheduled faculty meeting and is arranged by the liaison. At this time, CEDIS personnel explain to the staff the basic function of the Project and how CEDIS can fill their information needs.

Step 4: Workshop Sessions. CEDIS has made its personnel available to Network schools for workshops or individual instruction in the use of ERIC indexes and information requesting. This has been accomplished during the summer at Springfield, Milford, and the Blue Hills Regional Vocational Technical School during their Project CAREER Workshops.

Step 5: In-Service Training. This usually takes place in the school library or other convenient location within the school. CEDIS personnel make themselves available to all interested staff, on a voluntary basis, for individual instruction in use of the system. This also gives CEDIS staff an opportunity to develop grass-roots relationships with staff and receive feedback on a personal basis.